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I. Vrublevsky / V. Parkoun / V. Sokol / P. Hamolka (sp)

Optical Properties of Porous Alumina Films Formed in Oxalic Acid

FUNCTIONALIZATION OF MATERIAL SURFACES (OPTICS)

Porous alumina films for this study were formed using anodizing of Al foils (99.9% purity) in 0.5 oxalic acid solution at 18 ºC. The luminescence properties of as-anodized and annealed porous alumina films were investigated using a fluorescence spectrophotometer with a Xe lamp as the excitation light source. Annealing of specimens was carried out in air at temperatures from 100 up to 600 ºC. Based on photoluminescence (PL) measurements, it has been revealed that the observed blue PL band is asymmetrical and can be divided into two sub-bands by Gaussian fit. Our experiments have shown the intensity of blue PL band increased with elevated annealing temperature and reached a maximum for specimens annealed at about 500 ºC.

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